

**B.TECH SEM - III (2007 COURSE) (CIVIL ENGG.) : WINTER -
2017**

SUBJECT : CONCRETE TECHNOLOGY

Day **Friday**
Date **19/01/2018**

W-2017-2360

Time **10.00 AM TO 01.00 PM**
Max. Marks : 80

N.B.:

- 1) **Q.No.1** and **Q.No.5** are **COMPULSORY**. Out of the remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in the **SEPARATE** answer books.
- 3) Draw neat and labeled diagram **WHEREVER** necessary.
- 4) Figures to the right indicate **FULL** marks.
- 5) Assume suitable data if necessary.

SECTION – I

- Q.1** a) Describe Hydration of cement. [05]
b) Explain segregation and bleeding of concrete. [04]
c) What are the factors affecting strength of concrete? [05]
- Q.2** a) Explain ‘Dry Process for Manufacturing of Cement’. [07]
b) What is alkali aggregate reaction? State the factors affecting this reaction. [06]
- Q.3** a) What is curing of concrete? Explain the effect of temperature on curing. [07]
b) What are the operations involved in the process of concreting? [06]
- Q.4** a) What do you understand by Grade of Concrete? How it is determined in the laboratory? [07]
b) Explain the terms shear strength, bond strength and third point loading. [06]

SECTION – II

- Q.5** a) Describe the various variables involved in the process of mix design. [05]
b) What is the role of various admixtures in concrete? Describe with suitable examples. [05]
c) Describe self compacting concrete. [04]
- Q.6** a) Write the steps involved in the process of mix design as per I.S. code method. Mention the different charts and tables to be used for design. [07]
b) How statistical quality control on concrete mix is achieved? [06]
- Q.7** a) What are air entraining agents? Explain their role in improving the properties of concrete. [07]
b) Write a short note on ‘Under Water Concreting’. [06]
- Q.8** a) Write in detail about ‘Ferro-Cement Concrete’. [07]
b) What is the relationship between strengths and durability of concrete? [06]

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